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HOUSE OF EDUCATION, AMBLESIDE.

NAME K. Hugman

DATE 1923 FORM

SUBJECT Natural History

R.S.A., LONDON.

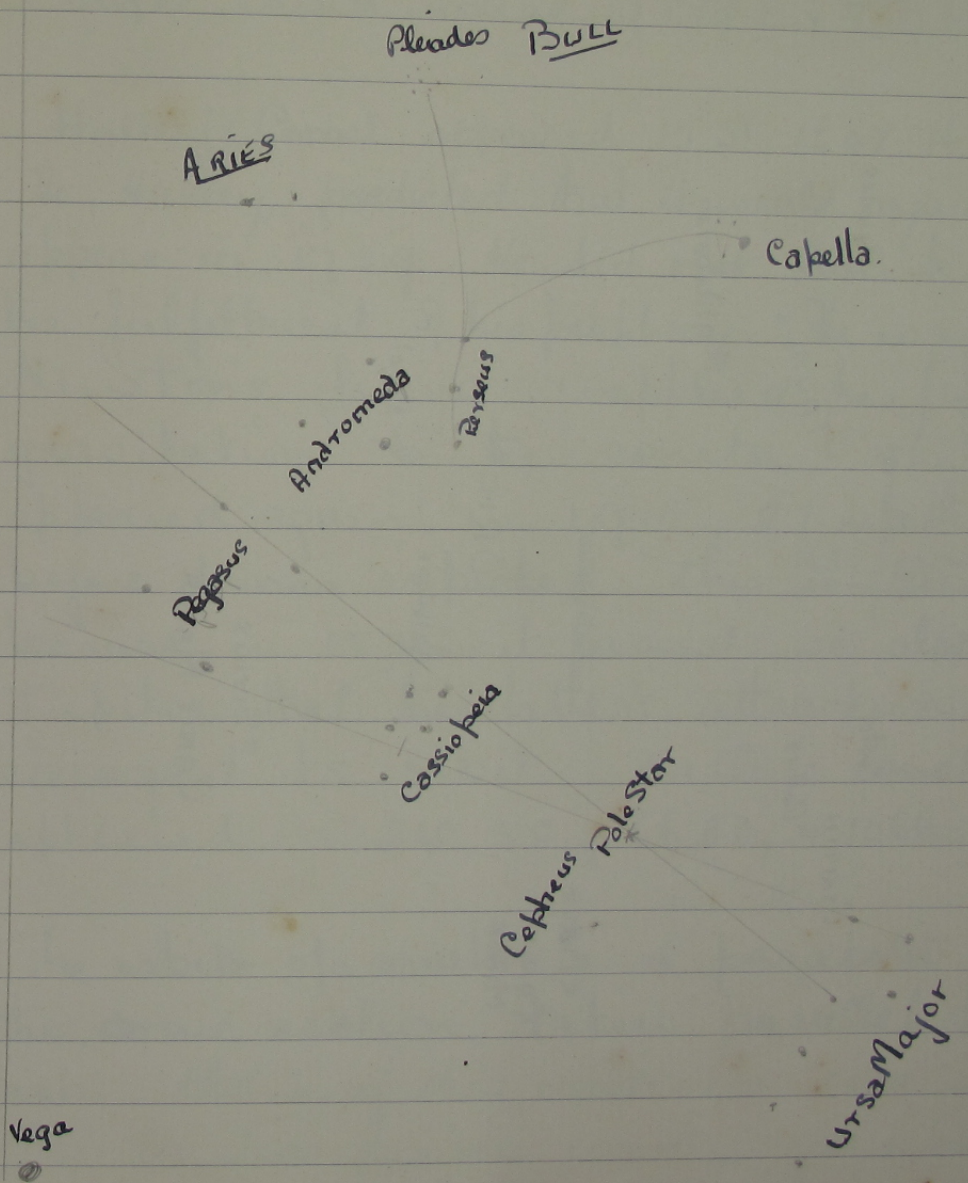
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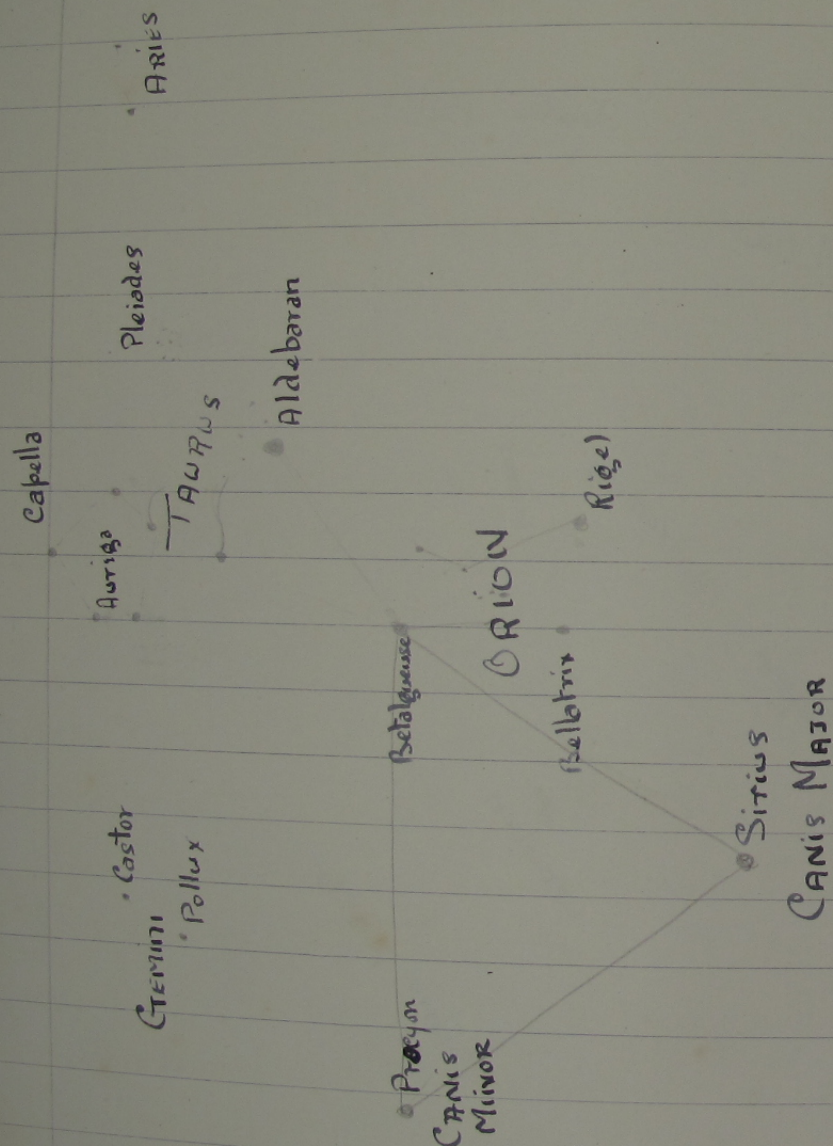
1923.

Astronomy.

Nov. 20th



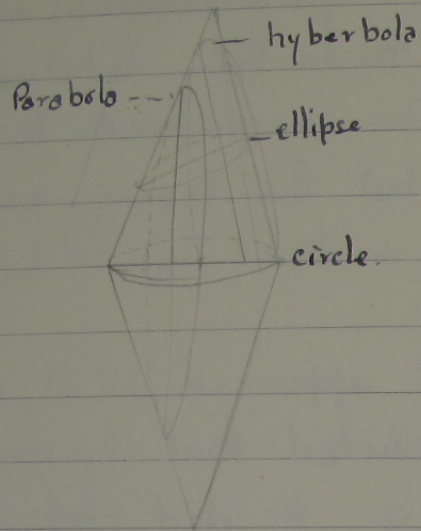
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Declination ~~the~~ S. of the celestial equator corresponds to earthly latitude. Right Ascension corresponds to earthly longitude, but the degrees are reckoned right round instead of 180° E & 180° W.

Halley's Comet appeared 1531, 1607, 1682. He, Halley, predicted that it would again appear in 1759. He did not live to see the fulfillment of his prophecy. He was Newton's friend & applied his law of gravitation to the comets. The Comet appeared again in 1910, 27 months before it was expected. This ^{was} ~~is~~ ^{was} ~~is~~ said to be because in 1835 it passed so close to Jupiter that the latter's attraction changed its orbit. Halley's comet also appeared in 240 B.C., 66 A.D., & 1066.

The orbit of a comet is a parabola - the conic section taken parallel to the axis. That is, of those comets which never return. There are also periodic comets, whose orbits are ellipses, usually much elongated.



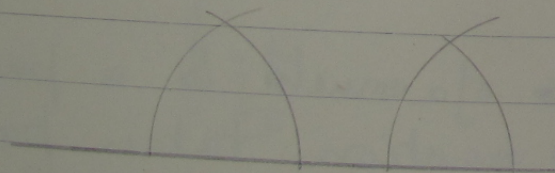
Architecture.

Nov. 26th

Early English Period

1189 or 1199 to 12⁴⁵ (72) Lancel
 12⁴⁵ - 1307 Geometrical.

Arches: Equilateral Lancel



Long narrow windows did not give much light, so they were grouped together.

Whitby

Hexham

Salisbury Cathedral

Lincoln " "

Wells

Westminster Abbey

Southwark Cath.

Turo .. (Modern)

Characteristics:


2 arches under one in doorway or triforium arcade.

Clustered pillars.

Bell capitals & stiff-stemmed foliage ones (carved)

Deep Grooves in the mouldings.

Ornament: dog-tooth

Flying Buttresses [4 at Westminster 

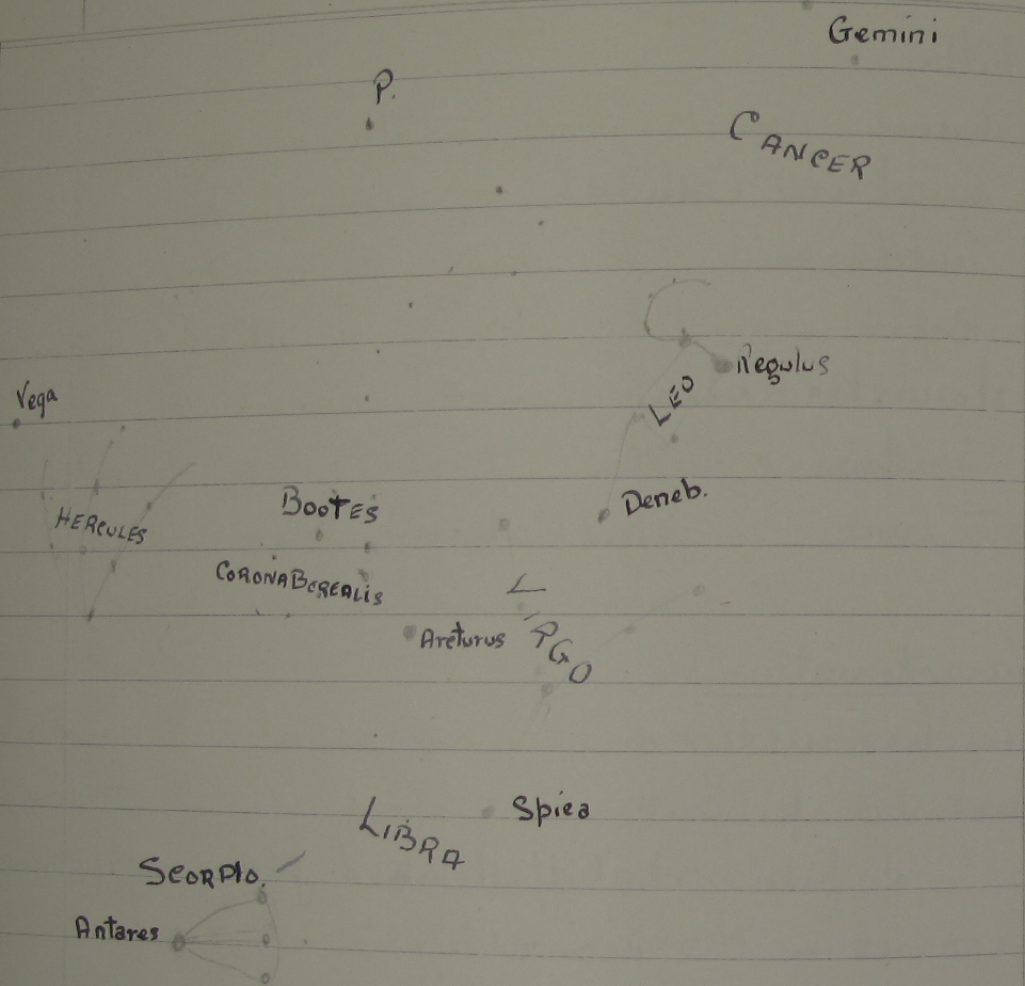
All arches - windows doors etc. - either lancet or equilateral.

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Astronomy.

Nov. 27th



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Periodic Comets

of long period - (10)

short " (20)

* parabolic comets.

Periodic comets are those 'captured' by the planets, i.e. who were close enough to the comet at its appearance to change its orbit & force it to travel round the sun in an ellipse continuously & thereby, to make periodic appearances.

Parabolic comets are those which whirl into our solar system from space round the sun & as quickly swing out again, perhaps never to return.

The tail of a comet is always turned away from the sun, a fact which may be due to the pressure of light.

A comet is self-luminous; ^{* contain carbon. It is} & very light in weight. - air of the same volume is 4 or 5 thousand times heavier than the comet. so that the mean density of a comet is less than air. We may ^{understand} see this when we see stars through the tail of a comet. This does not prove that a comet is made up of

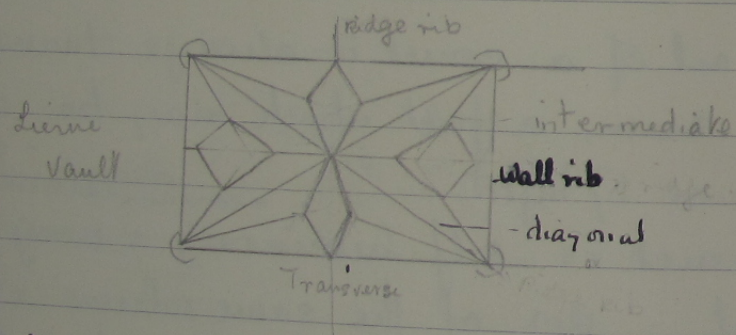
gaseous matter; observations have shown that there are a large number of small solid bodies compose the comet's head or nucleus.

Shooting Stars are not proper stars. They are lumps of matter which, when they enter our atmosphere become luminous. Travelling at 30 miles per sec. gives them tremendous heat & our atmosphere has the effect of ^{igniting} ~~illuminating~~ them.

Architecture

Dec. 3rd '23.

Decorated Period 1272 or 1307 till 1377.



Tr. 'Lien'

diagonal ribs
transverse "
ridge & wall "
intermediate "
lierne "

Characteristic decoration of Melrose Abbey: curling foliage flowing round the capitals.

Characteristics of Period

1. Ball flower ornament - seen in Lincoln
2. Plate & Bar tracery.

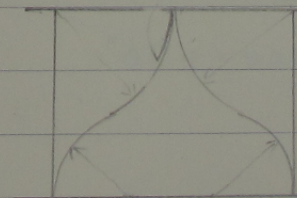
1. Large ^(cusps) surfaces of blank stone left
2. Thin lines

In the latter therefore, groovings were able to be used.

Ruskin thought that the architects were inspired to design by the thought of the shape of the light that would come through.

3. Curvilinear tracery, one form of which is reticulated tracery.
4. Lierne Vaulting.
5. Pier - clustered pillars in solid masonry - not detached.

ogee arch.



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Astronomy

Dec. 4th '23.

Meteors radiate from one of the constellations.

In Nov. 1833

1866 - every 33 years - Leonids

.. (and) every 13 years Andromedids

.. August - Perseids

.. April - Lyra

After the shower of meteors in 1866, it was discovered that Tempel's comet had the same orbit as the Leonids.

Nov. Andromedids } Bida's comet 1845, 1852
every 13 yrs. 1872, 1885, 1898 } Biela's

Capella R = $5\frac{1}{4}$ hrs. Dec. = $+45^\circ$

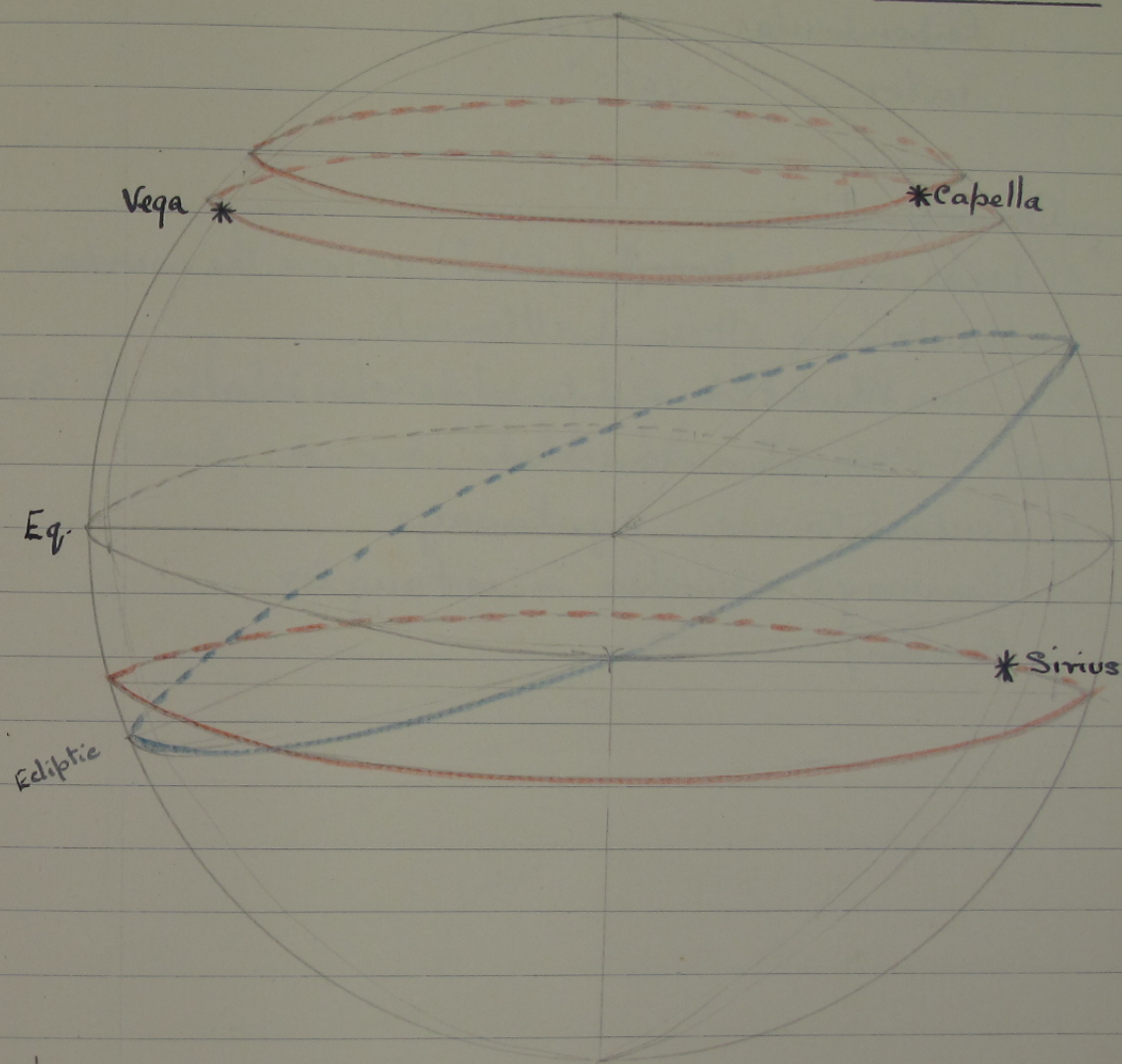
Vega R = $18\frac{1}{2}$ hrs Dec. = $+39^\circ$

Sirius R = 7 hrs Dec. = -17°

Acturus R = 14 hrs Dec. = $+20^\circ$

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Diagram showing the placing of stars by Right ascension
 & declination



Good

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Architecture

Dec. 10th '23.

Perpendicular 1377-1485
Tudor 1485

Characteristics:

Transoms, or lines (horizontal) across the windows

Parapets are often battlements.

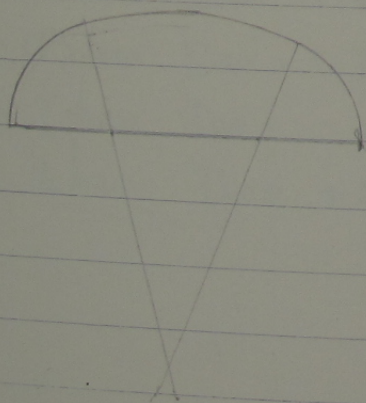
Black stone & white stone characterises the East
Anglian churches.

Central towers & gateways.

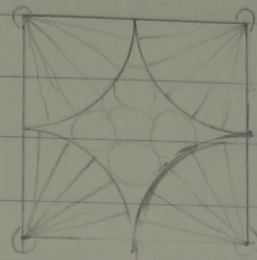
Doorways & porches in rectangles.

Paneling.

4 centred arch



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Fan shaped roof

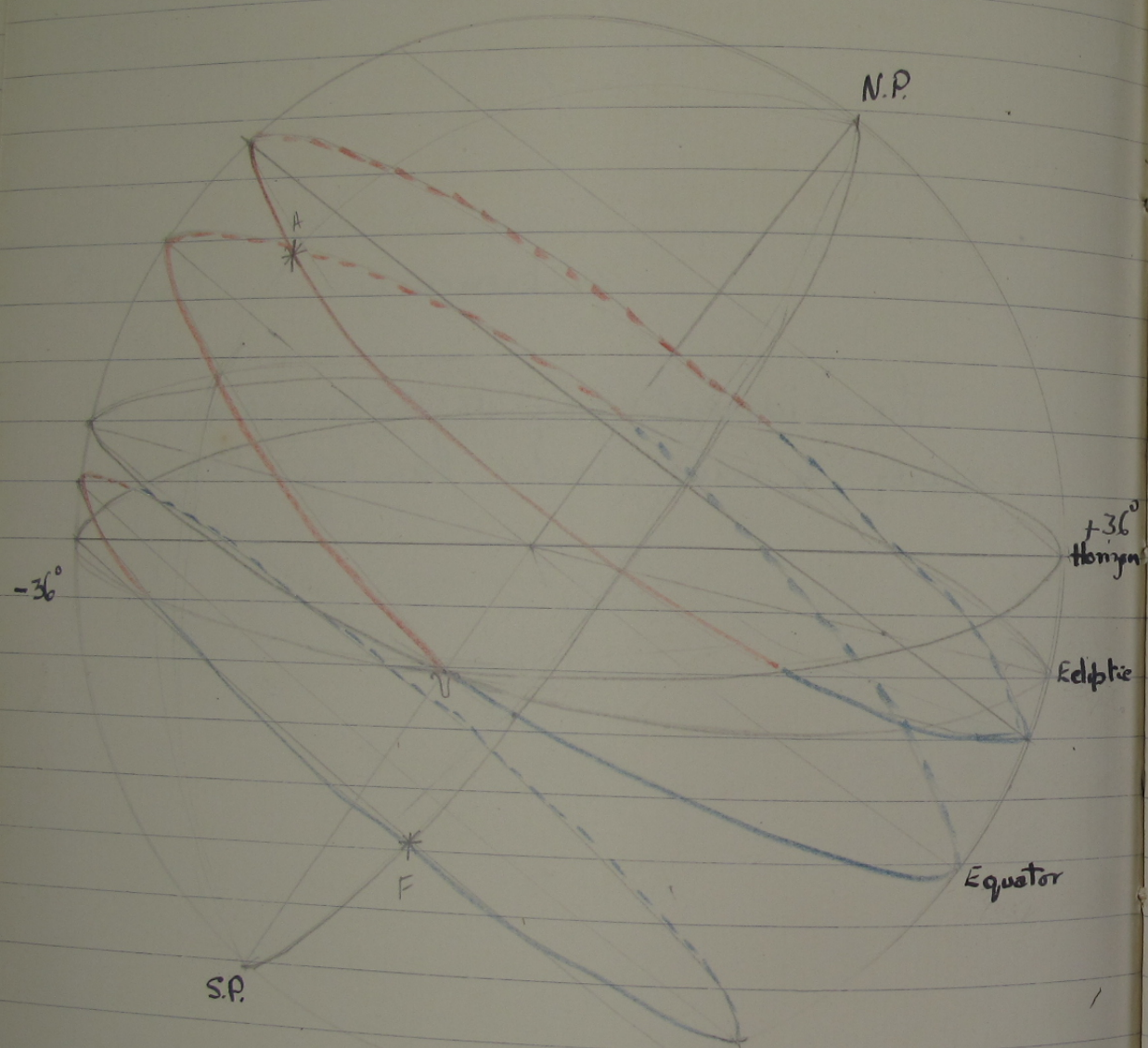
Astronomy

Dec. 13th

The Sidereal day is 23 hrs. 56 mins. i.e.
nearly 4 mins shorter than the solar day.

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Celestial Sphere for an observer in Ambleside (54° N.)



Fomalhaut $AR: 23^h$ $Dec: -30^{\circ}$
Aldebaran $AR: 4^h$ $Dec: +16^{\circ}$